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Research Paper

Metacognition, Obsessive Compulsive Symptoms and Generalised Anxiety During Covid-19 Pandemic

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ABSTRACT

Background: The initiation of a pandemic led to a global crisis. Such prolonged stress can lead to emergence of various mental health conditions, but there must be some predisposing risk factors that can increase the chances of such a mental health condition as per the diathesis stress model of mental health conditions Methods: The online survey was completed by 380 individuals which included 3 standardised questionnaires- Metacognition Questionnaire-30 (MCQ-30), Obsessive Compulsive Inventory-Revised (OCI-R) and Generalised Anxiety Disorder-7 (GAD-7) Results: Metacognition has a higher correlation with OCD symptoms as compared to the GAD symptoms. Upon conducting a regression analysis Metacognition was seen to cause significant variation in the scores of OCD and GAD both. More than 60% of the people who had higher scores on metacognition are at a risk of developing OCD while exposed to the environmental stressor i.e., the Pandemic. Conclusion: Covid has been a trigger to a lot of negative thinking, exposure to traumatic news and keeping a check on our metacognition is really important. The risk of developing OCD and GAD is very high after the pandemic hence, we shall require more proactive professionals to be ready for a wave of mental health issues that can follow post/during the pandemic.

Keywords: *Obsessive Compulsive Symptoms, Generalised Anxiety, Mental Health, Diathesis Stress Model, Pandemic*

In December 2019, a new epidemic emerged with the first few cases in Wuhan, China which was termed as COVID-19 (Zhu N, Zhang D, Wang W et al.,2019). Soon by March 2020 it spread widely across the globe along with every city, state and country declaring complete lockdown. With this there was a flood of research across the world and began the spreading of awareness and cautions for the general public. Additionally, began the investigation on the ill effects and psychological strain of isolation and shredding of the natural "Social" nature of man due to quarantining (Brooks SK, Webster RK, Smith LE et al,2020). As stated by Bandura, a reciprocal interaction exists between man and the society. Social-environmental factors play a crucial role in the mental hygiene of individuals (Goloshumova, et.al. 2019).

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Isolation during pandemic

The first and foremost preventive measure against the COVID-19 is Isolation. Man is a social animal and chronic isolation i.e. devoid of interaction in the society (Leigh-Hunt et al., 2017) can have great negative impact on the mental and physical well-being partly due to changes in sleep, diet as well as lesser physical exercises and mobility (Cacioppo and Hawkley, 2003). Due to this, the interaction, leisure outings, emotional rejuvenation and pleasure is depressed, that in one way or the other does have ill-effects on the emotional health, wellbeing and quality of life (Nardone and Speciani, 2015). People now-a-days are being seen as a direct threat leading to even more isolation even amongst close relatives and friends too, avoiding any kind of proximity (Nardone and Portelli, 2005). Even isolation of less than 10 days is seen to have serious issues on the individual that can emerge as major psychiatric symptoms in the long run, mostly by 3 years (Brooks et al., 2020).

Social isolation and risk to mental health

The most common psychological disorders emerging are anxiety and panic, obsessive-compulsive symptoms, insomnia, digestive problems, as well as depressive symptoms and post-traumatic stress (Rogers et al., 2020). These are not only a direct consequence of the pandemic but also largely driven by the effects of prolonged social isolation. COVID-19 got along with it, an exposure to potential chronic stressors and fear amongst the population. Recent studies have identified stress, particularly chronic stress, as an important inducer of anxiety (Zhu et al., 2014; McKim et al., 2018; Zhang et al., 2018) which is indeed one of the predominant mental health issues currently affecting society (Shepard and Coutellier, 2018). The pandemic generated widespread anxiety based on both research (Lai et al., 2020) and media reports (Gold, 2020). A recent survey conducted by the Indian Psychiatry Society indicates 20% rise in patients suffering from mental illness (Lolwal, 2020)

Mental health disorders largely follow the diathesis stress model (Bleuler & Rosenthal, 1960; Cox et. al.,2020) wherein the genetic, situational or psychological predisposition or vulnerability to a particular disorder might be triggered by the environmental stressors. An important risk factor for mental illness during a pandemic is an individual's constant worry about self and family members (Li, et.al., 2020). Excessive worry is an accepted etiologic factor in the development of obsessive-compulsive disorder (OCD) symptoms (Fontenelle, et. al., 2016).

While the environmental and genetic factors play their role in development of a mental health condition another factor that is an important contributing factor is the METACOGNITION. "Thinking about how we think" is known as Metacognition (John Flavell, 1970). According to John H. Flavell, Metacognitive theory posits that OC symptoms develop as a result of maladaptive beliefs about thoughts themselves. Unhelpful metacognitions may contribute to obsessive and compulsive symptoms, pathological worry and underpin trait anxiety (Wells & Cartwright-Hatton, 2004).

Mental Health emergency

Identifying high risk groups is an important task for mental health professionals that shall be followed up in the long run for helping people to keep up with their mental hygiene during a crisis leading to the importance of crisis Intervention. As stated above exposure to trauma and prolonged stress can in the long run lead to some serious psychiatric conditions hence, it is very important to identify the issues that have the potential chances to be diagnosed in the population and plan an intervention for preventing adverse outcomes.

REVIEW OF LITERATURE

Armstrong et. al. (2011) Although obsessional thoughts are deemed necessary to OCD, and persevering worry is considered significant to GAD, it has been found that such repetitive cognitions co-occur in both disorders.

Abramowitz et. al (2018) tested the hypothesis that both obsessive and metacognitive beliefs uniquely predict OC symptom dimensions even after controlling for general distress.

Diefenbach, G. J. et.al (2019) accounted for the models that conceptualise worry as a deliberate cognitive control or emotion management mechanism that is actively exercised by GAD individuals to avoid connection with higher distressing emotional knowledge.

Dembinska et.al (2020) examined the prevalence, severity and correlations of obsessive and compulsive symptoms caused in patients diagnosed with OCD or GAD due to the heterogeneity of obsessive-compulsive disorders (OCDs) and their simultaneity with anxiety disorders. Obsessive-compulsive symptoms observed in GAD patients may exhibit a different framework than obsessive-compulsive symptoms in OCD patients.

Dugas, M. J. et.al (2020) researched to obtain a deeper knowledge of the mechanism of general imagery and individual differences in people with GAD. As for clinical aspects, intergroup differences existed in the experience of prospective imagery; those with GAD reported greater pre-experiencing, assessed future negative situations as more vivid, more probable, and more personally relevant, and assessed the experience of these images as more intense. Studies indicated that an intrusive mental imaging presence separates GAD people from those without psychopathology.

Girdhar et. al., (2020) reviewed the impact of COVID-19 on mental health. Potential risk of relapse of phobias, anxiety and OCD may occur and the catastrophic personal experience may lead to PTSD. The need for intervention and psychological therapies could be fruitful in mitigating adverse mental health consequences.

Pittenger, C. et.al (2018) observed that people diagnosed with obsessive-compulsive disorder usually perceive psychosocial stress as a factor that aggravates their symptoms, and they frequently connect the onset of symptoms to a troubling time of life or a specific traumatic event. It's unclear whether trauma or stress is an independent source of obsessive-compulsive disorder symptoms, a triggering component interacting with a pre-existing diathesis, or just a non-specific component that can exacerbate OCD in combination with other psychiatric symptoms.

Petric (2020) argues that COVID-19 has prompted people to be more responsible, yet social seclusion may not be the greatest solution. It is important to examine not only physical but also mental wellness. Cancelling gatherings may have a severe influence on mental health, particularly during the holiday season. Individuals who have lost their jobs are the ones who are most vulnerable to mental and financial problems at this time.

METHODOLOGY

Aim

To examine the impact of metacognition as a predisposition to mental health conditions OCD and GAD, during the pandemic.

Hypothesis

- There will be a significant relationship between metacognition and obsessive-compulsive symptoms.
- There will be significant relationship between metacognition and generalised anxiety symptoms.
- There will be a significant effect of metacognition on Generalised Anxiety and Obsessive-compulsive symptoms.

Sample

A total sample of 380 individuals belonging to different geographical regions affected by the Pandemic participated in the study.

Male	n= 170
Female	n=210

Tools used

Three standardised tools were completed by the participants for the following study. MCT-30 (Wells, A., & Cartwright-Hatton, S., 2004) was used to study the mediating variable of Metacognition in adaptation to the situation or as a risk factor for development of OCD and Anxiety symptoms. OCI-R (Foa et al., 2002; Huppert et al., 2007) was used to identify the risk group of Obsessive Compulsive Disorder during the pandemic. GAD-7 (Spitzer et. al., 2006) was used as a screening tool for Mild, Moderate or Severe anxiety groups.

Statistical procedure

The statistical analysis for a total of 380 respondents was carried out using SPSS software. Pearson's correlation was carried out to predict the relationship between the scores obtained on the three dimensions - Obsessive Compulsive Inventory-R, GAD-7 and Metacognitive Questionnaire-30. To analyse and study the causative relationship between the three variables linear regression was carried out.

RESULTS AND DISCUSSION

Table 1: Mean, Standard deviation and Correlation

Variable	M	SD	GAD-7	OCI-R	MCT-30
GAD-7	7.15	5.309	1		
OCI-R	22.52	13.709	.557**	1	
MCT-30	62.84	16.044	.455**	.658**	1

***significant at 0.01*

Table 2: Regression table for GAD and MCT

Model	B	Std. Error	Beta	t	P	df	F	p	R sq.
MCT-30	.151	.015	.455	9.95	<.000	1	98.89	<.000	.207

Dependent Variable: Generalised Anxiety Symptoms
Predictor Variable: Metacognition

Table 3: Regression table for OCD and MCT

Model	B	Std. Error	Beta	t	P	df	F	p	R sq.
MCT-30	.562	.033	.658	16.99	<.000	1	288	<.000	.433

Dependent Variable: Obsessive Compulsive Symptoms
Predictor Variable: Metacognition

Table 4: Regression table for OCD, MCT and GAD

Model	**Beta**	**t**	**p**	**Df**	**F**	**p**	**R sq.**
MCT-30	.510	12.689	<.001	2	201.53	<.001	.517
GAD-7	.325	8.073	<.001				

Dependent Variable: Obsessive Compulsive Symptoms
Predictor Variable: Metacognition, GAD

Upon evaluating the means and standard deviation of all the three variables (Table 1) GAD-7 scores it was found to be 7.15 (SD=5.309) which indicates that most of the people at the moment were at Mild Generalised Anxiety level. OCI-R had a mean score of 22.52 (SD=13.709). According to the interpretation of scores for the following question, the cutoff for the risk of developing OCD was 21 on the scale hence most of the population lies above the cutoff and is at a risk for the same. Similarly, for MCT-30, the scores shall range between 30 (Least) to 120(Most), the mean was calculated to be 62.84 (SD=16.044) which means that individuals did have negative metacognition at a moderate level.

On conducting the correlation analysis (Table 1) for GAD (SD= 5.309, Mean= 7.15) and OCI-R (SD= 13.709, Mean= 22.52) it was found to be .557 which means that there's a high correlation present between anxiety and obsessive-compulsive tendencies. According to Mielimąka, M. Et.al (2019) anxiety is an important factor observed in the clinical picture of OCD and severity may reach the level similar to that observed in GAD. This relation could be attributed to the factor that obsessive thoughts are often anxiety provoking and compulsive actions are followed as an attempt to reduce the anxiety. The correlation analysis for OCI-R (SD= 13.709, Mean= 22.52) and Metacognition (SD=16.044, Mean=62.84) (Table 1) depicted a significant relationship with r=.658 which is a high correlation. According to Abramowitz et. al (2018) found that both obsessive and metacognitive beliefs uniquely predict OC symptom dimensions even after controlling for general distress. This relation could be seen because obsessive compulsive and metacognitive beliefs may share an underlying theme and a lot of obsessive thoughts are linked to metacognition.

The correlation analysis for GAD (SD=5.309, Mean= 7.15) and Metacognition (SD=16.044, Mean=62.84) (Table 1) yielded a significant relation between both that is r=.455 which is a Moderate correlation. According to S. H.W. et.al (2017) dysfunctional metacognition like negative beliefs regarding lack of control and the threat of thoughts were prevalent in

Anxiety disorders whereas increased cognitive self-consciousness was more indicative of obsessive-compulsive disorder. This could be explained by certain metacognitive beliefs being contributors for anxiety, especially negative dysfunctional beliefs.

A simple linear regression was calculated to predict GAD-7 based on MCT-30 (Table 2). A significant regression equation was found ($F(1,378)=98.89$, $p<.000$), with R square of .207, which shows that 20.7% variance was caused in General anxiety due to Metacognition. GAD value varied .151 units per unit of MCT. According to Aydın, et. al. (2019) metacognition factor of the "need to control thoughts" is highly correlated to the GAD. Anxiety arises in individuals who are not able to control their thoughts and are unable to recognise their emotions. Psychopathological references to GAD too indicate the rumination of negative thoughts and a fear of uncontrollability as stated in the DSM.

Similarly, a simple linear regression was calculated to predict OCI-R based on MCT-30 (Table 3). A significant regression equation was found ($F(1,378)=288.85$, $p<.000$), with R square of .433, which shows that 43.3% variance was caused in Obsessive compulsive symptoms due to Metacognition. OCI value varied .562 units per unit of MCT. Which indicates that metacognition has a causal effect on the obsessive compulsive symptoms. According to Mavrogiorgou, et. al (2016) Obsessive symptoms are highly caused due to metacognition. Higher metacognition is found to act as a predisposition to risk of development of Obsessive compulsive symptoms.

Regression analysis (Table 4) predicted that both MCT and GAD both caused 51.7% variance (R Square=.517) in the value of OCI with MCT (Beta Coefficient=.510) and GAD (Beta coeff.=.325) with a predictive strength of approx. 2:1 ie. MCT causes more variation in OCI as compared to GAD where negative metacognition and corrective thinking promote more of obsessions i.e., ruminating about the same thoughts and more of compulsions that is correcting the negative thoughts there after.

CONCLUSION

Metacognition contributes a lot to the obsessive and compulsive symptoms, where high metacognition can be seen as a contributing and predisposing factor to the development of mental disorders. Clinically, more than 60% of the sample was seen to be at a risk of OCD post the pandemic to which they need prior psychological attention. OCI-R is not a diagnostic assessment if done alone but can be taken into consideration while identifying the high-risk group. As every mental disorder follows a diathesis-stress model, It's important to note that the pandemic has been an environmental stressor when identifying the high risk group, this trigger can lead to worsening of mental health conditions and the professionals need to be proactive.

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Conflict of Interest
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